

Claims:

1. (Currently Amended) A computer-implemented method ~~to trade objects for order~~ matching implemented over a network, comprising:

providing a filter specified by a user that defines an arbitrarily-shaped region
within at least four dimensions;

receiving, over said network, a buy order from ~~a~~ the user for an object having the
at least four dimensions associated with said object, wherein the buy order includes ~~a~~ the
filter specified by the user that defines the ~~creates an~~ arbitrarily-shaped region within the
at least four dimensions;

receiving, over said network, a message to modify said buy order while said buy
order is pending, wherein said message is received from a party associated with the buy
order;

modifying said buy order in accordance with said message;

encoding user-preferences associated with at least one of the buy order or one of a
plurality of sell orders;

searching with at least one computer, and in accordance with the filter specified
by the user, an indexing tree that includes the plurality of sell orders for objects having
said at least four dimensions and, in accordance with said searching, identifying only in
~~order to identify~~ one or more sell orders that are within said arbitrarily-shaped region;
~~wherein said searching of said indexing tree only identifies one or more sell orders that~~
~~are within said arbitrarily-shaped region;~~

applying, with said at least one computer, characteristics of the one or more sell
orders that are within said arbitrarily-shaped region ~~identified in the searching step~~ and

the encoded user preferences, to a quality function that outputs one or more quality values for the one or more sell orders that are within said arbitrarily-shaped region identified in the searching step to the user; and

~~attempting~~ searching, with said at least one computer, for at least one to match between said buy order with and the one or more sell orders that are within said arbitrarily-shaped region identified in the searching step in accordance with said one or more quality values.

2.-3. (Cancelled)

4. (Original) The method of claim 1, wherein said object is at least one of a group comprising goods and services.

5. (Original) The method of claim 1, wherein said object is a vehicle.

6. (Original) The method of claim 5, wherein said at least four dimensions for said vehicle comprises at least four dimensions from a group of dimensions comprising manufacturer, model, year, mileage, color, and accessories.

7. (Previously presented) The method of claim 1, further comprising:

receiving a message from said party to execute said buy order; and

automatically executing said buy order in accordance with said message.

8.-25. (Cancelled)

26. (Currently amended) A computer-implemented method ~~to trade objects for order~~ matching implemented over a network, comprising:

providing a filter specified by a user that defines an arbitrarily-shaped region within at least four dimensions;

receiving, over said network, a sell order from the a user for an object having the at least four dimensions associated with said object, wherein the sell order includes a the filter specified by the user that defines the ~~creates an~~ arbitrarily-shaped region within the at least four dimensions;

receiving, over said network, a message to modify said sell order while said sell order is pending, wherein said message is received from a party associated with the sell order;

modifying said sell order in accordance with said message;

encoding user-preferences associated with at least one of the sell order or one of a plurality of buy orders;

searching with at least one computer, and in accordance with the filter specified by the user, an indexing tree that includes the plurality of buy orders for objects having said at least four dimensions and, in accordance with said searching, identifying only in ~~order to identify~~ one or more buy orders that are within said arbitrarily-shaped region; ~~wherein said searching of said indexing tree only identifies one or more buy orders that are within said arbitrarily shaped region;~~

applying, with said at least one computer, characteristics of the one or more buy orders that are within said arbitrarily-shaped region identified in the searching step and the encoded user preferences, to a quality function that outputs one or more quality values for the one or more buy orders that are within said arbitrarily-shaped region identified in the searching step to the user; and

~~attempting searching, with said at least one computer, for at least one to match between said sell order with and the one or more buy orders that are within said arbitrarily-shaped region identified in the searching step~~ in accordance with said one or more quality values.

27. (Cancelled)